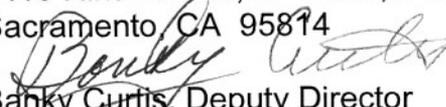


Memorandum

FEB 07 2006 00155

Date: February 7, 2006

To: Paul Marshall, South Delta Program Manager
Department of Water Resources
1416 Ninth Street, 2nd Floor, 215-30
Sacramento, CA 95814

From: 
Banky Curtis, Deputy Director
Habitat Conservation Division
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

Subject: Department of Fish and Game Comments on the October 2005, South Delta Improvements Program Draft Environmental Impact Report/Statement

The Department of Fish and Game (Department) appreciates the opportunity to review and provide comments on the October 2005, South Delta Improvements Program Draft Environmental Impact Report/Statement (DEIR/S). Our comments are divided into two categories, general and specific. The general comments will be presented in the body of this memorandum with the specific comments in an attached table.

The South Delta Improvements Program (SDIP), as currently proposed, has been separated into two distinct "Stages" with Stage 1 consisting of the installation and operation of permanent gates (three agricultural barriers and one fish barrier), conveyance and spot dredging in selected channels, and the extension of up to twenty-four agricultural diversions. Stage 2 consists of the proposed increase of State Water Project (SWP) permitted pumping levels from 6,680 cfs up to 8,500 cfs. It is the Department's understanding that, until such time more information is produced by the Pelagic Organisms Decline Working Group (POD) on the reasons for the decline in the abundance of several pelagic species, the Department of Water Resources (DWR) will delay the implementation of Stage 2 of the SDIP.

San Joaquin River Basin Salmon: In addition to sharing the heightened concern over the decline of several pelagic organisms occupying the upper Sacramento-San Joaquin estuary, the Department is also very concerned about the future viability of Chinook salmon in the San Joaquin River basin. Therefore, we request additional analysis be included in the supplemental environmental documentation preceding a Stage 2 decision.

FEB 07 2006 00155

Abundance of the adult salmon runs in the basin's tributaries remain depressed despite extensive physical channel and habitat restoration work in the tributaries, increasingly restricted salmon harvest in ocean and inland waters, and ongoing implementation of the Vernalis Adaptive Management Program to meet water quality objectives in the Delta. Studies have documented consistently poor survival of salmon smolts migrating through the Delta in recent years. The specific mechanisms for this low survival remain unknown but it is clear that a) survival rates for San Joaquin fall-run smolts migrating through the south Delta are significantly lower than survival of Sacramento basin fall-run smolts migrating through the north and central Delta during the same season and b) extremely low survival of fall-run Chinook salmon migrating through the south Delta is a significant factor in the continued depression and decline in adult fall-run escapement in the San Joaquin tributaries.

As the DEIS/R points out, operation of the gate at the head of Old River **may help** increase the survival of these migrating salmon by reducing their movement into the south Delta via Old River, thus shunting them away from Central Valley Project (CVP) and SWP export facilities and keeping a greater proportion of flow in the San Joaquin River channel, to facilitate their downstream movement. However, it is not clear to us that this gate will be operated throughout the juvenile salmon out migration period and thus it may not contribute to resolving the many problems, such as inadequate flows, confused hydrodynamics in Delta channels causing delays in migration, and poor water quality affecting these juvenile salmon as they migrate to and through the Delta. We also have concerns that even with the operational flexibility afforded by a permanent head of Old River gate, there may be circumstances when listed species such as delta smelt will govern how the gate needs to be operated, diminishing any potential benefits for San Joaquin salmon.

The Department and others are interested in eliminating the factors limiting San Joaquin salmon survival and recovery of healthy production levels in all water years. The Department, as well as the federal fishery agencies and stakeholders, continue to seek habitat improvements and flow enhancements in tributary watersheds essential for the recovery and long-term viability of anadromous species. The Department recently presented its views on the importance for salmon of spring San Joaquin River flow into the Delta during State Water Resources Control Board's workshops as part of periodic review of the Bay Delta Water Quality Control Plan and expects to continue seeking improvements.

We must continue to investigate the factors affecting survival of salmon smolts in the Delta and upstream migration of adult salmon into the San Joaquin basin. Existing and newly obtained information must then be applied both to operation of permanent gates and to future analyses and Stage 2 decisions regarding the operational component of the SDIP.

FEB 07 2006 00155

The Department looks forward to working with DWR, Reclamation, and others to achieve meaningful progress on this topic, as well as on the pelagic organism decline, in anticipation of a future Stage 2 SDIP decision and associated permitting on the operational component.

The Department requests that DWR develop a series of avoidance, minimization or mitigation measures that can be implemented should a conflict develop between fish and wildlife resources as a result of either the operation or non-operation of the SDIP structural components. These measures should be designed so that they offset the impacts arising from conflicting environmental needs imposed or exacerbated by the SDIP and the operation of the gates and their interaction with the existing or increased level of pumping during Stage 2.

Adaptive Management: Adaptive Management in the document refers to both a real-time management scheme for operations (e.g. page 5.2-28) and a process for modifying mitigation measures (e.g. 6.1-114). Prior to relying on "Adaptive Management" as an environmental commitment or a mitigation measure, the Department requests that more specificity be added to the EIR on all parts of the adaptive management framework in response to the following:

1. The conceptual models for fish species in Chapter 6 are very comprehensive, but are quite broad and do not show how the specific operations of the gates and pumps will be studied, including whether or not the Department's existing monitoring program for gate operations is deemed incorporated, whether additional uncertainties are to be addressed, and what other monitoring programs will be carried out relative to those uncertainties.
2. What parameters and resources will be monitored? What data reporting, analysis, and synthesis systems will be instituted?
3. What are the decision-making systems and how will monitoring information be used? Specifically, the process for final decision making regarding gate operations needs to be defined. The existing document (e.g. pages 2-29 and 2-30) refers to a Gate Operations Review Team with representatives from DWR, the US Bureau of Reclamation, the US Fish and Wildlife Service, the National Marine Fisheries Service, the Department, and "possibly others as needs change." However, the document does not explain whether recommendations from the fisheries agencies with respect to gate operations, particularly head of Old River gate operations ostensibly to benefit species, are advisory or binding. In the event of conflicts between water level, water quality and fish resources, whether or not the advice of the Department and other trustee agencies for fish and wildlife must be followed will determine the degree to which the impacts of operations could adversely affect fish and wildlife.

FEB 07 2006

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The document states the SDIP effectiveness monitoring and relevant monitoring (and research) will be conducted by the CALFED Science Program to evaluate the effectiveness of compliance mitigation measures. The Department believes the SDIP monitoring program should be consistent with the CALFED process but not rely on it. Given the independent nature of the CALFED Science Program and uncertainties regarding program funding and priorities, it does not appear that reliance on the Science Program to conduct this type of compliance monitoring is feasible or appropriate. As the lead agencies on the Project, DWR and Reclamation are responsible for developing and implementing a project-specific monitoring program.

Article 21: The Department is requesting the assumptions and modeling regarding Article 21 deliveries be updated to accurately reflect the extent, timing, and impacts of those Article 21 deliveries on species.

Intertie: The Department is requesting that DWR conduct and include an analysis of the potential impacts associated with the implementation and operation of the Intertie as it relates to SWP and CVP joint operations. This analysis should acknowledge that even without a change in the authorized pumping level of the CVP, the Intertie could potentially change the timing and amount of CVP deliveries above historic export amounts by wheeling CVP water over to the California Aqueduct at a point before the existing constriction in the Delta Mendota Canal as a result of subsidence. In addition, the Department would also like to see an analysis conducted that looks at potential impacts associated with the SWP moving water to the Delta Mendota Canal.

SDIP EIR/S and the Action Specific Implementation Plan: The comments provided in this memorandum and its attachment should also be incorporated in the Action Specific Implementation Plan (ASIP) for the SDIP. The ASIP forms the foundation for the department's proposed Natural Community Conservation Plan (NCCP) approval and permit on the Stage 1 decision. And, while there is a separate process to develop the SDIP ASIP, it is important to keep these two documents tied closely together. We look forward to working with DWR to develop conservation and minimization measures that, when implemented, will ensure the species covered in the NCCP are adequately conserved.

Future Comments on the Implementation of Stage 2: It is our understanding the comments we are providing on the Stage 1 portion of the SDIP, will not preclude the Department from providing further comments on the "Stage 2" component of the SDIP and any inter-related Stage 1 component operations. Moreover, incidental take coverage for the proposed Stage 2 of the SDIP will require that DFG, as a Responsible Agency under the California Environmental Quality Act, have an opportunity to review, comment, and ensure that conservation measures are adequate to conserve and manage covered species.

FEB 07 2006

This could include, for example, amending the NCCP on Stage 1. If our understanding of the review process for the Staged Components of the SDIP is incorrect please advise us immediately.

This memorandum, together with the attached table, concludes the Department's comments on the SDIP DEIR/S. Thanks again for the opportunity to review and comment. If you have any questions regarding the contents of this memorandum please contact Mr. Jim Starr of my staff directly at 209-942-6070 or email him at jistarr@delta.dfg.ca.gov.

Attachment

cc: Department of Fish and Game

Sacramento
Dr. Diana Jacobs
Ms. Tina Cannon
Mr. Jim White
Mr. Scott Cantrell

Central Valley Bay Delta Branch
Dr. Perry Herrgesell
Mr. Frank Wernette
Mr. Jim Starr

San Joaquin Valley - Southern Sierra Region 4
Mr. Bill Loudermilk
Ms. Patricia Brantley
Mr. Dean Marston
Mr. Dale Mitchell

US Fish and Wildlife Service - Sacramento

Mr. Ryan Olah

National Marine Fisheries Service - Sacramento

Mr. Jeffery Stuart

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
1	1a/ES-4	Physical/Structural Component Actions; second bullet	Delete the word "inefficient", so that it reads as follows: Replace inefficient seasonal barriers with permanent operable flow control gates on Middle River, Grant Line Canal, and Old River	
2	1a/ES-5	3 rd paragraph	The first sentence states DWR and Reclamation are proposing SDIP as a "self-mitigating project". We suggest you don't use this term and instead state that significant adverse impacts will be fully mitigated to a level of less-than-significant.	
3	1a/ES	Table ES-3	The table should include costs for the SDIP monitoring program and science needs in addition to the fishery investigations already included in the table.	
4	1a/1-10	Ongoing Protection of Fish Resources and Other Environmental Resources	This section only discusses Central Valley fall- and late fall-run Chinook salmon. The export facilities also impacts winter-run and spring-run Chinook salmon, as well as, steelhead and delta smelt.	This section should be expanded to include these and other fish species that occur in the Sacramento-San Joaquin Delta.
5	1a/1-11	South Delta fish Protection; 2nd paragraph	The second sentence states that the "barrier is installed and operated April through mid-June and possibly extended to July 1". This is not correct.	Revise to read as follows: "barrier is installed and operated April through mid- June May and possibly extended to July June 1".

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
6	1a/1-15	Recent Fish Declines in the Delta and Estuary; 1st full paragraph on page	This section needs to be updated to reflect the current status of the POD studies.	Update with current information.
7	1a/1-15	Recent Fish Declines in the Delta and Estuary; 2nd full paragraph on page; 1st sentence	Reword sentence as follows: Scientific Studies, such as described above, are <i>underway</i> needed to determine the cause of the decline in pelagic fish.	
8	1a/1-15	Recent Fish Declines in the Delta and Estuary; 2nd full paragraph on page; 4th sentence	Delete the sentence beginning "Although" to the end of the paragraph.	These statements do not belong in this section. In addition, DWR and Reclamation are participants, not the sole investigators, in the investigation of pelagic species decline
9	1a/1-30	Effects on South Delta Water Users	The option of using low head pumps was taken off the table by DWR early in the negotiations and has not been evaluated by the DFG as a component of the South Delta Improvements Program.	Remove the entire second paragraph in this section.

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
10	1a/2-4	Decision Stages	It would improve the document to clarify the decision stages of SDIP, particularly the Stage 1 decision. The Stage 1 decision will clarify regulatory approval to pump at 6680 cfs along with the construction and operation of permanent gates.	Describe the project as occurring in stages and define the components of each stage. Stage 1 - installation and operation of gates and Stage 2 increased exports to 8,500 cfs.
11	1a/2-15	1 st full paragraph	The text characterizes water transfers as potentially resulting in indirect effects in the Delta. During IWOFF meetings some members argued that water transfers should be analyzed as a direct impact in the delta. Was a consensus view reached? How were these opposing views reconciled?	
12	1a/2-23	Gate Design and Construction Detail; 2nd paragraph; last sentence	See comment number 9	Remove this sentence
13	1a/2-29	Last Paragraph; 2nd sentence	Edit: "...to minimize impacts of on resident threatened and endangered species ..."	
14	1a/2-39	Table 2-7	The table should include costs for the SDIP monitoring program and science needs in addition to the fishery investigations already included in the table.	
15	1a/2-50	Environmental Training; last paragraph	The end of the Environmental Training section beginning with, "DWR would operate the gates...", contains information relevant to boating awareness and does not belong in this section.	Move this entire section and associated bullets to a new section titled "Boater Awareness"

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
16	1a/3-9	Mitigation Measures	The text states that not all of the CALFED Programmatic EIS/EIR mitigation measures will be implemented as part of SDIP.	It would clarify matters to say only those CALFED programmatic-level mitigation measures that are relevant to SDIP have been incorporated into the SDIP EIS/R.
17	1a/4	Table 4-1	Fish Impact 38: "beneficial impact" of contaminant spills (after mitigation) to green sturgeon appears to be a typographical error.	Correct error.
18	1a/4	Table 4-1	Fish Impact 46 and associated mitigation implies there is no potential for impact to migrating juvenile salmon from the San Joaquin Basin in the period prior to April 15.	Sampling at Mossdale on the SJR indicates that on average from 1988-2004, 17 percent of juveniles migrating downstream into the Delta from mid-March through mid-June do so prior to mid-April and about 10 percent do so after May 31. The VAMP period covers 31 days in mid-April to mid-May. Hence, the proposed mitigation from May 16 – May 31 fails to alter operations-related effects on more than a quarter of the migrating salmon population, on average.
19	1a/4	Table 4-1	Fish Impact 47: Potential increased entrainment risk for the juvenile winter-run and spring-run Chinook should also be recognized as occurring in January and February.	-

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
20	1a/4	Table 4-1	Also the Level of Significance and the determination of a Beneficial Impact as indicated for effects of Gate Operation on Juvenile and Adult Chinook salmon, Steelhead, Striped bass, Splittail, Green Sturgeon migration and, Delta smelt spawning and rearing habitat and entrainment is misleading and no substantial supporting evidence.	Provide a better analysis/assessment of the impacts and develop a Threshold of Significance for SJR Fall-run Chinook salmon.
21	1a	Figure 4-2	Figure 4-2 does not conform to the text on pages 4-7 through 4-9. It appears that the legend and bars on the right side of the figure (SDIP Additional Delta Exports) have got CVP and SWP labeled backwards. The additional exports described in the text and figure do not exactly match the quantities in Tables 5.1-5a through 5.1-7b either (for example, compare SWP Table A and Article 21 additional deliveries for Alternative 2C, as described in: Table 5.1-7b; the text on page 4-8; and, as shown in Figure 4-2). Also, it would clarify information in the Figure 4-2 to add "SWP/CVP combined exports" as a footnote to "SDIP Additional Delta Exports" in the legend and in the title.	

FEB 07 2006

Section _____
 Agency DFG
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
22	1b/5.1-4	Table 5.1-1	<p>The CALSIM assumptions used for Article 21 demand described in Table 5.1-1 (and Table 5.1-50) are lower than what is being used for the LT EWA EIS/R. For example, the higher Article 21 demand impacts one existing mechanism for fish protection, EWA, by constraining EWA winter fish actions, reducing EWA's ability to spill debt (thereby increasing EWA debt), and increasing the level of pumping that must be offset by EWA (thus requiring EWA to acquire more assets without any increased level of fish protection). This issue was the subject of numerous IWOFF and WOMT meetings in the spring/summer 2005. Article 21 demands have increased significantly in recent years and the time period of Article 21 deliveries is broader than the November-March period.</p> <p>If the SDIP document is not updated to represent these higher Article 21 demands it will under-represent the impact on fish species of existing 6680 pumping. Updated information regarding this higher Article 21 demand will be needed for both the EIS/R and the ASIP.</p>	
23	1b/5.1-4	Table 5.1-1; p. 6 of 6	Under EWA, shouldn't EWA fish actions and assets be shown for each SDIP scenario?	
24	1b/5.1-36	Table 5.1-4, etc.	The differences in part C of this and other similar tables are calculated as (part B minus part A), not as (A-B) as indicated.	Correct the table legend.

FEB 07 2006

Section _____
 Agency DFG
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
25	Ib/5.1-50	Article 21	<p>The first paragraph states the CALSIM model assumed a monthly maximum Article 21 delivery of 50 TAF to MWD and an additional 84 TAF to Kern County. The second paragraph states the maximum possible Article 21 deliveries are 536 TAF/yr, if full monthly deliveries are made in 4 out of 5 months.</p> <p>In Table C2.4 (SWP Article 21 target demands) of the Benchmark Studies Assumptions, Appendix C2, it states MWD's target demand is 200 TAF and others demand is 1008 TAF. The maximum SWP's contractors' Article 21 demands are 1208 TAF/yr. Why are the Article 21 demands described in the EIS/R and Benchmark Studies Assumptions different?</p>	
26	Ic/6.1-3	Summary of Significant Impacts; last sentence	DFG does not accept the proposal that "if these facility upgrades and procedural changes are determined to be equivalent to the avoidance and crediting system described above, these salvage facility and procedural changes may be substituted for the pumping restrictions as alternative cost-effective mitigation"	<p>Delete this sentence.</p> <p>DFG believes that any changes made to the export facilities will not substitute for operations restrictions that are implemented. Impacts to salvageable sized fish may benefit; however those smaller life stages will not benefit from changes to the facility and procedures.</p>

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
27	1c/6.1-27	Delta Smelt; 1st paragraph; last sentence	This statement sound like it is predetermining if the project has an effect on a delta smelt prior to it being evaluated.	Reword as follows: To the extent of salinity intrusion into the Delta, as represented by the change in <i>the</i> location of X2, will be evaluated to <i>determine if there is an confirm minimal</i> effect on spawning habitat.
28	1c/6.1-43		The estimation for impact level of entrainment loss compared to the estimated annual Juvenile Chinook salmon expected to enter the Delta was a combination of Sac and San Joaquin river systems.	Separately evaluate entrainment impacts upon SJR salmon population
29	1c/6.1-83	3 rd full paragraph	This paragraph is very hard to understand. It needs to be clarified and it may also help to include a graphical figure.	
30	1c/6.1-114		The text states that SDIP effectiveness monitoring and relevant monitoring (and research) will be conducted by the CALFED Science Program to evaluate the effectiveness of mitigation measures.	Comment: This approach is suggestive of the CALFED CMARP, which has never been fully developed. We don't think SDIP should depend on the Science Program to conduct this type of compliance monitoring nor do we believe it is appropriate. DWR and Reclamation are responsible for developing and implementing the monitoring program.

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
31	1c/6.1-114	Last # on page, top of page 6.1-115	The text states that resource agencies may also recommend modifications [to mitigation measures] to DWR and Reclamation for review. If DWR and Reclamation concur with the proposed modifications, they will be implemented.	Comment: We suggest you revise this statement. If such changes to mitigation measures are required to avoid the permitted level of take of covered species or to avoid jeopardy, they are non-discretionary.
32	IIb, Appendix J-18	Paragraph 2	4,600 + 10,300 = 14,900, not 15,900.	Please correct the text.
33	IIb, Appendix J-23 and 29	J-23, Para. 2 J-29, Para. 5	The fraction of particles passing Chipps Island provides an estimate of fish survival only if entrainment is the only source of mortality.	Provide an explanation of important limitations in the interpretation of PTM results. (This is not to say the PTM approach has no value.)
34	IIb, App, J- 29	J-29, Para. 6	The text suggests that real fish may be even "smarter" than the trained active particles and be more successful in avoiding entrainment using behaviors in addition to tidal surfing. This may be true. But it may also be true that the advantages of tidal surfing implied by active particle PTM results may be overstated because the fish being represented by the particle may not simply be navigating from point A in the direction of point B at the maximum rate possible. For example, the need to physiological adjust to increasing salinity for a fish moving from the Delta to the lower estuary may constrain the rate of travel relative to that of a surfing particle.	Provide appropriate caveats to interpretation of model results.

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
35	IIb, App. J-34	J-34, last Para.	The Delta Smelt Equivalents calculation may be the first ever done. Necessarily it requires some simplifying assumptions. The approach may have value but seems to suffer from at least one obvious problem in assuming that daily or monthly mortality is constant among the various life stages over the course of a year. More likely the mortality rate of adult fish is much lower than that of newly-hatched larvae. Survival rate should increase as the larvae grow to be juveniles and then sub-adults.	We recognize that robust data on stage specific mortality rates are lacking. Bennett (2005) made some estimates. At least explain how deviations from this and other simplifying assumptions used in your method could affect your results and conclusions.
36	2b/J-34	Delta Smelt Equivalents; 1st sentence	The text states: Although delta smelt were not a species of interest in 1986, they are of great interest now. Comment: This is a value-laden statement that should be revised.	Delete fish sentence

FEB 07 2006

Section _____
 Agency _____ DFG _____
 Commentor Name _____

SDIP Draft EIR/S
 Comment Form

Comment Number	Volume/ Page Number	Line, Figure, or Table No.	Comment	Suggested Resolution
37	2b/J-35	Last paragraph	The text states that the most effective mitigation measure for delta smelt involves improvements in the salvage handling and transport of the salvaged fish back to Delta channels. The text further states that SWP and CVP should initiate these improvements.	Whether improvements to facilities, collection, handling and transport will be "the most effective mitigation measure" for delta smelt remains to be demonstrated. It would improve the document to describe the current studies underway and acknowledge the uncertainties with this approach. In addition, this mitigation measure to reduce fish entrainment through improvements in salvage operations needs to be a commitment by DWR and Reclamation (rather than a "should" do).
<end>				

FEB 07 2006